

Applicants : Philip Livingston and Friedhelm Hellung
Serial No. : 08/196,154
Filed : June 7, 1995
Page 2

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amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier, wherein the conjugation of the ganglioside is through a ceramide-derived carbon.--

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- 87. (New) A composition comprising a GM2 or a GD2 ganglioside conjugated through the ceramide portion of the ganglioside to Keyhole Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier, wherein the conjugation of the ganglioside is through a carbon derived from a cleavage of a double bond in the ceramide portion of the ganglioside.--
- 88. (New) A composition comprising a GM2 or a GD2 ganglioside conjugated through the ceramide portion of the ganglioside to Keyhole Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier, wherein the conjugation of the ganglioside is through a carbon derived from a ceramide double bond to Keyhole Limpet Hemocyanin or a derivative thereof.--
- 89. (New) A composition comprising a GM2 or a GD2 ganglioside conjugated through the ceramide portion of

Applicants : Philip Livingston and Friedhelm Hellung
Serial No. : 08/196,154
Filed : June 7, 1995
Page 3

the ganglioside to Keyhole Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier, wherein the conjugation of the ganglioside involves a ceramide double bond of the ganglioside and a reactive amine group of Keyhole Limpet Hemocyanin or a derivative thereof.--

--90. (New) A composition comprising a GM2 or a GD2 ganglioside conjugated through the ceramide portion of the ganglioside to Keyhole Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier, wherein the conjugation of the ganglioside involves a ceramide double bond of the ganglioside and an aminolysl group of Keyhole Limpet Hemocyanin or a derivative thereof.-

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--91. (New) A composition comprising a GM2 or a GD2 ganglioside conjugated through the ceramide portion of the ganglioside to Keyhole Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier.--

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Applicants : Philip Livingston and Friedhelm Hellung
Serial No. : 08/196,154
Filed : June 7, 1995
Page 4

--92. (New) A method of stimulating or enhancing antibody production in a subject which comprises administering to the subject an effective amount of a composition comprising a GM2 or GD2 ganglioside conjugated through the ceramide portion of the ganglioside to Keyhole Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier, wherein the conjugation of the ganglioside is through a ceramide-derived carbon.--

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cont* --93. (New) A method of stimulating or enhancing antibody production in a subject which comprises administering to the subject an effective amount of a composition comprising a GM2 or GD2 ganglioside conjugated through the ceramide portion of the ganglioside to Keyhole Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier, wherein the conjugation of the ganglioside is through a carbon derived from a cleavage of a double bond in the ceramide portion of the ganglioside.--

--94. (New) A method of stimulating or enhancing antibody production in a subject which comprises administering to the subject an effective amount of a composition comprising a GM2 or GD2 ganglioside conjugated through the ceramide portion of the ganglioside to Keyhole

Applicants : Philip Livingston and Friedhelm Hellung
Serial No. : 08/196,154
Filed : June 7, 1995
Page 5

Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier, wherein the conjugation of the ganglioside is through a carbon derived from a ceramide double bond to Keyhole Limpet Hemocyanin or a derivative thereof.--

- 95. (New) A method of stimulating or enhancing antibody production in a subject which comprises administering to the subject an effective amount of a composition comprising a GM2 or GD2 ganglioside conjugated through the ceramide portion of the ganglioside to Keyhole Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier, wherein the conjugation of the ganglioside involves a ceramide double bond of the ganglioside and a reactive amine group of Keyhole Limpet Hemocyanin or a derivative thereof.--
- 96. (New) A method of stimulating or enhancing antibody production in a subject which comprises administering to the subject an effective amount of a composition comprising a GM2 or GD2 ganglioside conjugated through the ceramide portion of the ganglioside to Keyhole Limpet Hemocyanin or a derivative thereof and a carbohydrate derivable from the bark of a Quillaja saponaria Molina tree, the amounts of such conjugated ganglioside and such carbohydrate being effective to

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